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| 10/811,222 | 03/26/2004 | Jen-Lin Chao | 252011-2070 | 1942 |

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THOMAS, KAYDEN, HORSTEMEYER & RISLEY LLP
600 GALLERIA PARKWAY, 15TH FLOOR
ATLANTA, GA 30339

| EXAMINER | |
|---|---|
| DICKERSON, TIFFANY B | |
| ART UNIT | PAPER NUMBER |
| 3623 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/811,222 | CHAO ET AL. | |
| | Examiner | Art Unit | |
| | TIPHANY B. DICKERSON | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

***Introduction***

1. This is a Non-Final Action in response to the application filed on March 26, 2004. Claims 1-18 are pending.

2. Claims 13-18, which are described as "machine-readable storage medium," are interpreted as product claims in light of the inclusion of the term with acceptable forms of computer-readable medium (i.e., "embodied in tangible media, such as floppy diskettes, CD-ROMS, hard drives, or any other machine-readable storage medium...") as described in ¶ 30 of the Detailed Description of the invention.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-6 are rejected because the claim recites a "system," but it fails to recite the any associated structure of the apparatus. The body of claim 1 recites various "modules" which constitute software per se. Therefore claim 1 and the subsequent dependent claims are directed to non-statutory subject matter.

Claims 6-12 are directed to a method but do not recite a particular machine. In order for a method to be considered a "process" under § 101, a claimed process must either: (1) be tied to a particular machine or (2) transform an article to a different state or thing *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). If neither of these requirements is met by the

claim, the method is not a patent eligible process under §101 and is non-statutory subject matter. Since claims 7-12 fail to recite a particular machine to accomplish the method set forth, the claims merely recite mental steps which is non-statutory.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble claim 1 recites "a system for balancing production capacity between different production technologies," the system comprising various features. The body of the claim, however, is not commensurate with understood definition of a system or apparatus because the various recited elements fail to provide any structure and merely recite functionally descriptive material and abstract ideas. More specifically, the body of the claim recites various "modules" for performing steps which constitute software per se, which is non-statutory subject matter. It is thereby unclear what structure the system is comprised of and how the various features combine to form a system or apparatus.

***Claim Rejections - 35 USC § 102***

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 7-11, and 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al., U.S. Patent Application Publication No. 2005/0038684 (hereinafter "Wang").

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

*Concerning claims 1, 7, and 13*, *Wang* discloses a system and method for balancing production capacity between different production technologies, comprising:

an order management module to receive a first order, and generate a dummy order corresponding to the first order (Fig. 1, Ele. 122, discussed at [0042]; See also [0033]);

a reservation module to reserve a first capacity of a first production technology for the first order and a second capacity of a second production technology for the dummy order (Fig. 1, Ele. 121, discussed at [0042]; "allocation planning module" which reserves capacity according to a machine-time based plan [0034]); and

a capacity management module to cancel the first order and direct the dummy order to substitute the first order if a second order requesting the first production technology is received, and release the first capacity to fulfill the second

order ([0034-35], (i.e., decreases reservation capacity depending on machine time based plan).

*Concerning claims 2, 8, and 14*, Wang discloses further wherein the second order is received before a cut off date for a capacity management cycle (See [0035 and 0045], wherein [0035] receives a purchase order for the product.

*Concerning claims 3, 9, and 15*, Wang further discloses wherein the capacity management module further cancels the dummy order and releases the second capacity if the second order is not received before the cut off date for the capacity management cycle [0035], (i.e., rejects an order sent from other customers before the cutoff date).

*Concerning claims 4, 10, and 16*, The system of claims 1, 7, and 13 further comprising a production line to manufacture products of the first order using the second capacity, and manufacture products of the second order using the first capacity [0036-0038], i.e., utilizing a swap mechanism).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5, 6, 11, 12, 17, and 18 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10/640,776 which has a common assignors with the instant application in view of Çatay, "Tool Capacity Planning in Semiconductor Manufacturing," August 2003, Computers & Operations Research, Vol. 30, No. 9, pp. 1349-1366 (hereinafter "Çatay"). Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

*Concerning claims 5, 11, and 17*, Wang discloses the system of claims 1, 7, and 13 as disclosed therein. However, Wang does not explicitly teach the method of including an accounting unit to calculate a product discount. Çatay teaches a semiconductor manufacturing capacity planning method utilizing discounting to bias operation order (Çatay,

Table 1, p. 1353, i.e. $C_{ijt}$, discounted operating cost of each tool of type i to process operation j in period t).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize discounting as taught in Çatay in the system executing the method of Wang. Both methods aim to solve the same problems. As in the subject application, Catay's method seeks to offer a solution to the problem of planning capacities when both new and old semiconductor products are simultaneously fabricated. Thus, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made.

Concerning claims 6, 12, and 18 The system of claims 1, 7, and 13 wherein the first production technology is more advanced than the second production technology (Çatay, p. 1351, i.e., newer and older tools, wherein 1) newer more efficient tools are "normally capable of processing advanced products, as well as older products, and 2) older tools can usually only process older products and could require longer processing times."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIPHANY B. DICKERSON whose telephone number is (571)270-7048. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571)272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TIPHANY B. DICKERSON
Examiner
Art Unit 3623
January 8, 2009

/Beth V. Boswell/
Supervisory Patent Examiner, Art Unit 3623